ARCADIS

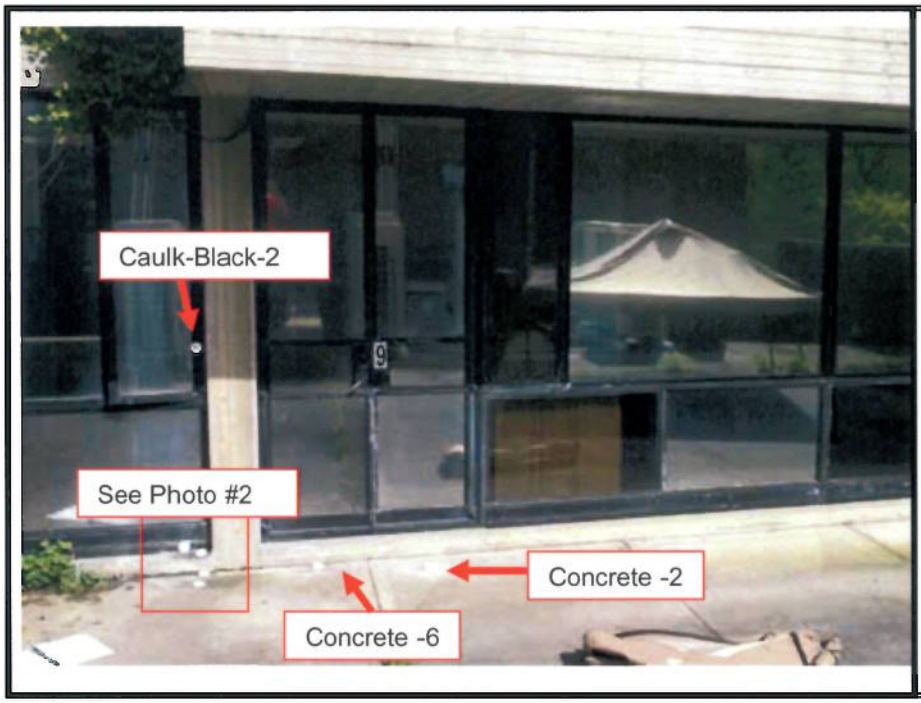
Appendix A

Limitations and Service Constraints

ARCADIS

Appendix B

Photograph Log



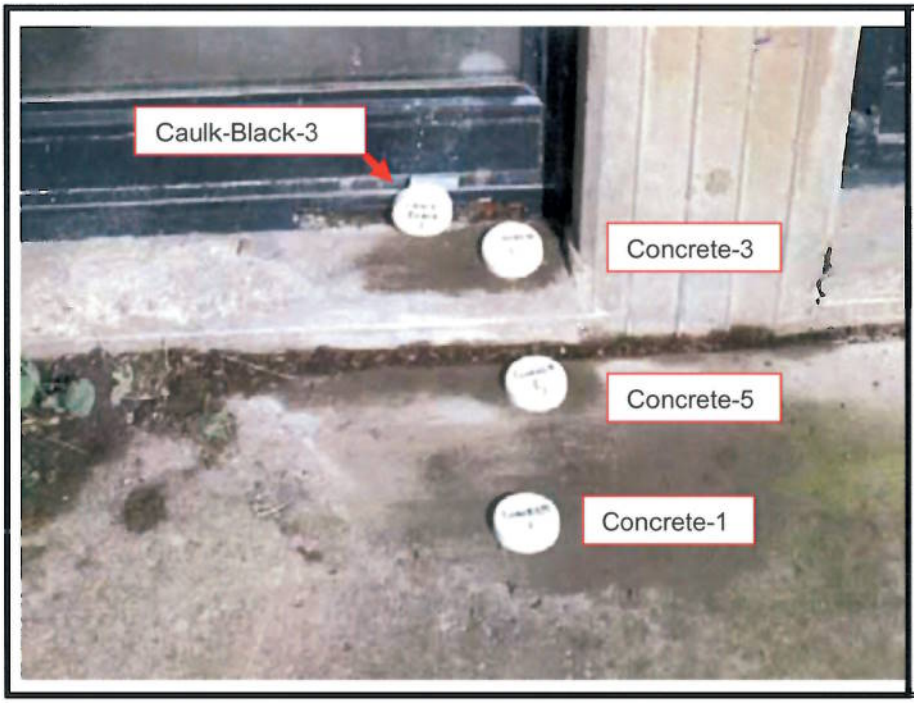
Photograph #1

Description of Photograph:
Exterior sample locations outside of Rooms LG15 (left) and LG14 (right).

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Budd Batchelder

Date of Photograph:
May 16, 2012



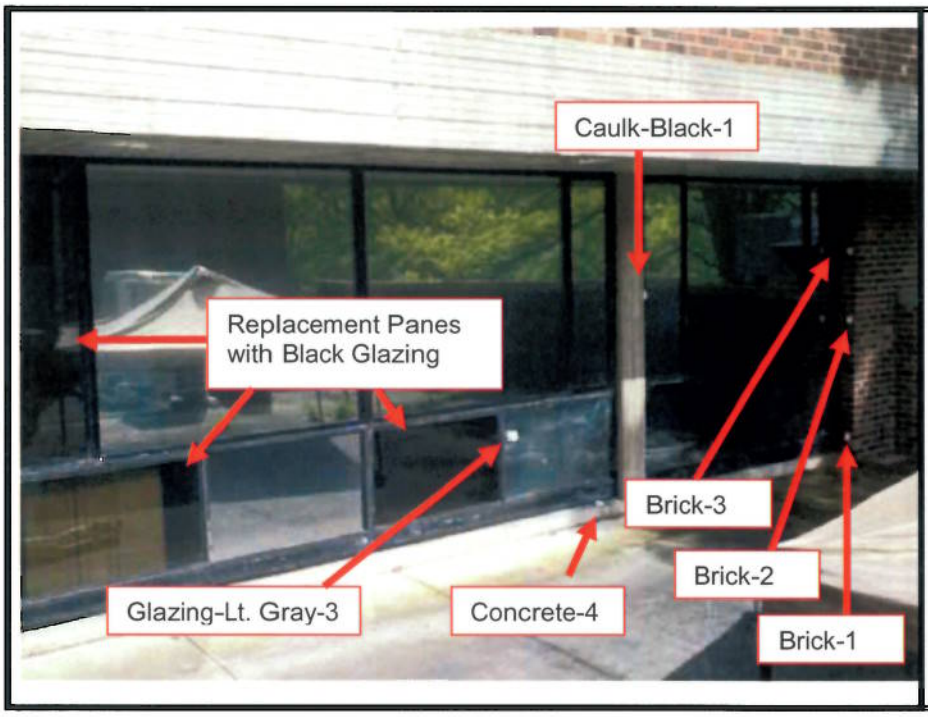
Photograph #2

Description of Photograph:
Close up of sample locations adjacent to double doors.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Budd Batchelder

Date of Photograph:
May 16, 2012



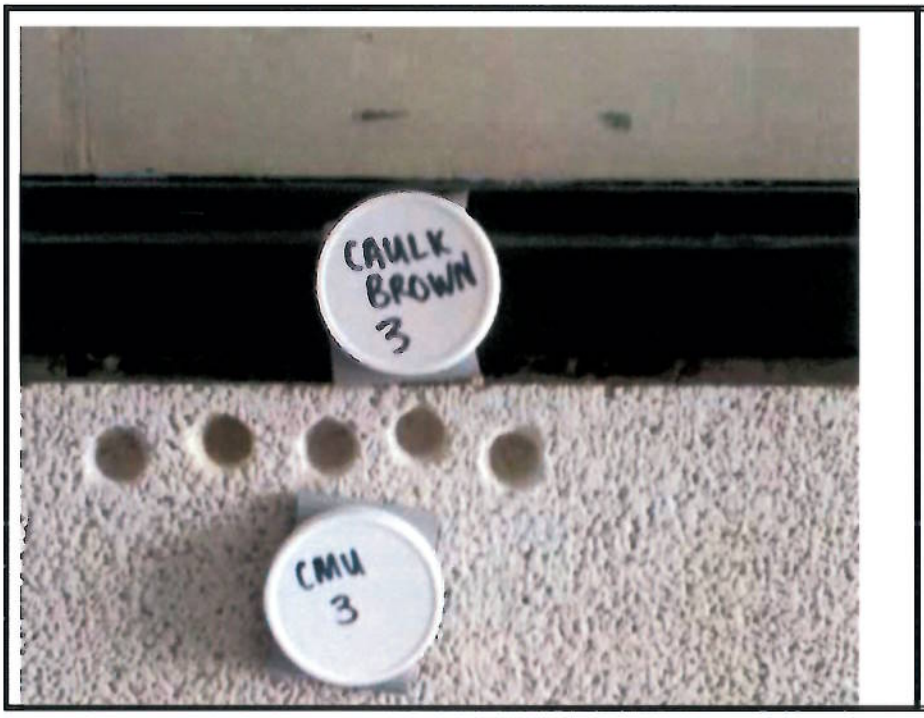
Photograph #3

Description of Photograph:
Additional view of exterior sample locations outside of Room LG14.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Budd Batchelder

Date of Photograph:
May 16, 2012



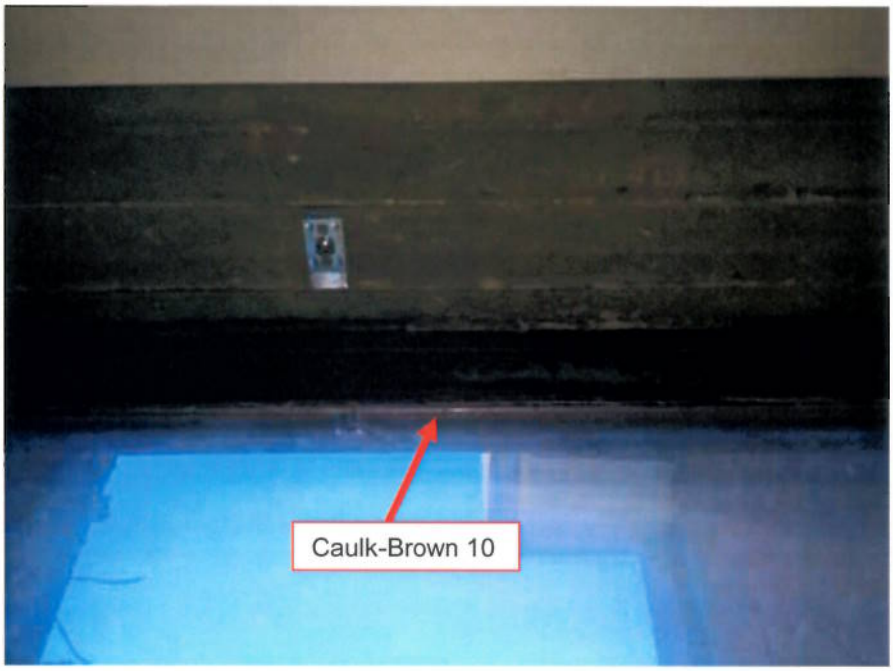
Photograph #4

Description of Photograph:
Typical cluster of brown caulking CMU sample location. Interior window in LG13.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Budd Batchelder

Date of Photograph:
May 16, 2012



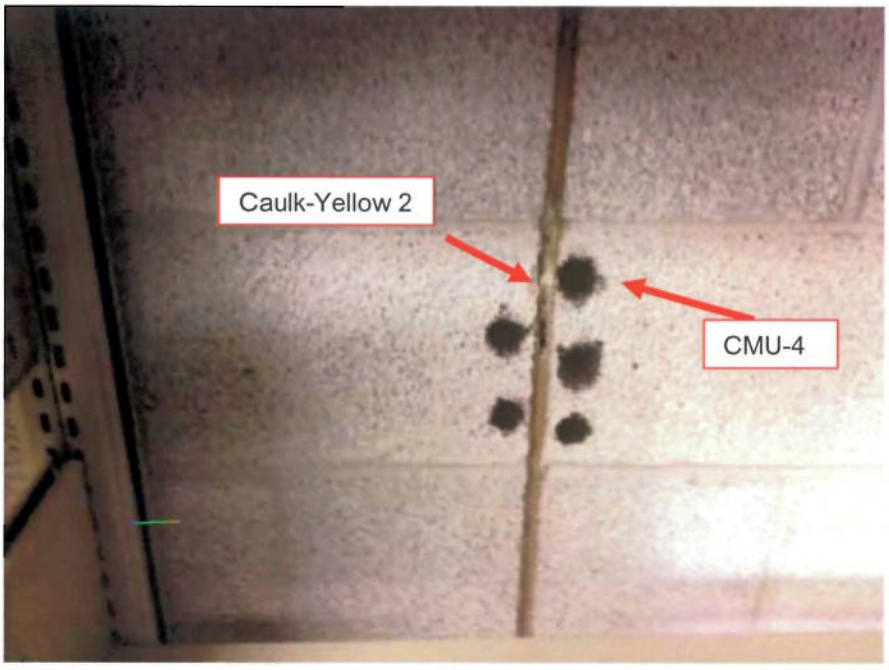
Photograph #7

Description of Photograph:
Brown caulk from above exterior window in Room LG-15.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Tom Duffy

Date of Photograph:
September 11, 2012



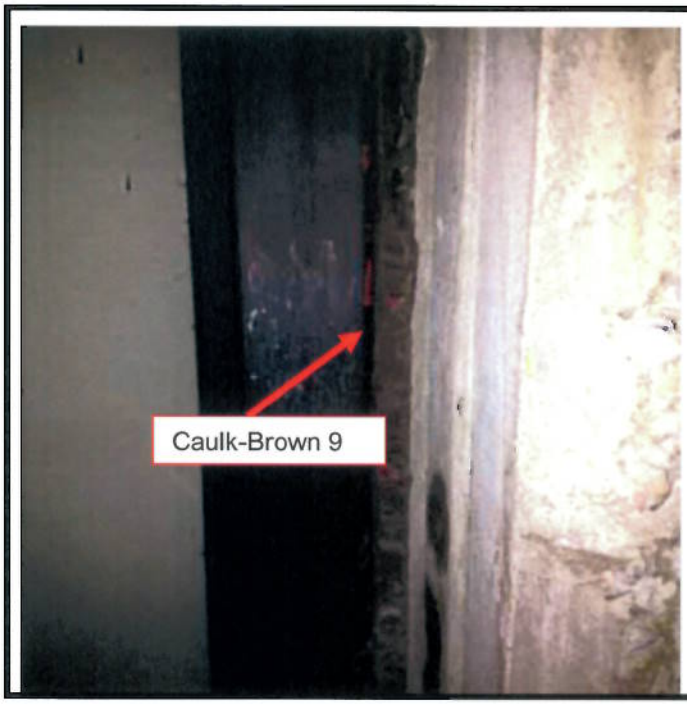
Photograph #8

Description of Photograph:
CMU samples in Room LG-15.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Tom Duffy

Date of Photograph:
September 11, 2012



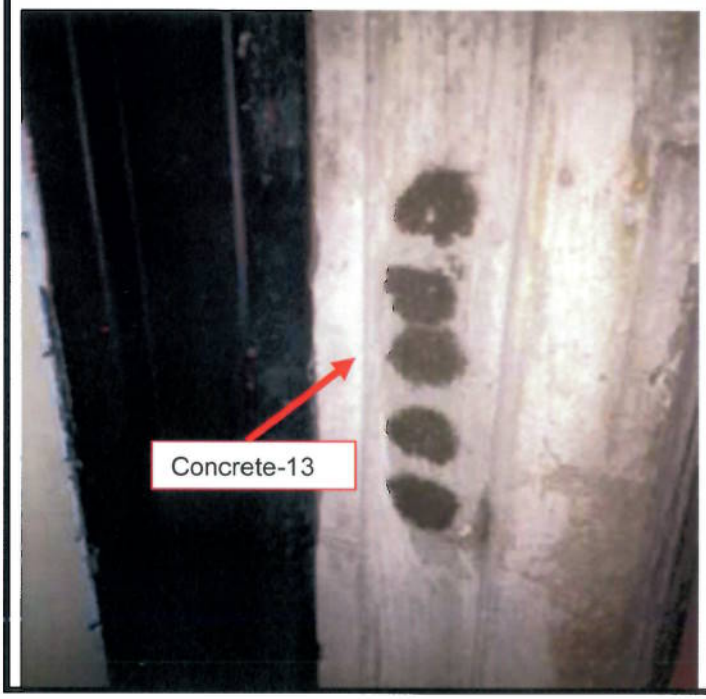
Photograph #11

Description of Photograph:
Co-located caulk sample on interior window.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Tom Duffy

Date of Photograph:
September 11, 2012



Photograph #12

Description of Photograph:
Concrete sample on interior column in Room LG-13.

Site Location:
Cape Cod Community College
West Barnstable, Massachusetts

Photograph Taken By:
Tom Duffy

Date of Photograph:
September 11, 2012

Alpha Analytical Job L1208892

A modified Tier II validation was performed on the analytical results. The data validation was performed to qualify the data if necessary. Laboratory summary reports were used for the validation and not raw data.

PCBs:

The polychlorinated biphenyl (PCB) samples were extracted within the 7 days holding time and analyzed within the 40 day holding time.

PCB surrogates were compliant in sample Brick-2A-0-05" Split. Surrogates were diluted out in sample Caulk-Black-3-Split. No qualifications will be applied.

The PCB method blanks were below reporting limit for the target analytes. No qualifications will be applied.

No field blank samples were submitted with the sample delivery group.

No PCB matrix spike/matrix spike duplicates were analyzed.

The PCB laboratory control sample (LCS)/LCS duplicate met acceptance criteria. No qualifications will be applied.

No PCB field duplicates were submitted with the sample delivery group.

The relative percent difference between the column results for the detected PCBs met the acceptance criteria. No qualifications will be applied.

Sample Caulk-Black-3-Split was diluted 100 times, resulting in elevated reporting limits. No PCBs were detected above the reporting limits. However, because the reporting limits were elevated by 100 times, the non-detections in this sample should be appropriately interpreted.

ARCADIS
Emeryville, CA

Alpha Analytical Job L130082

A modified Tier II validation was performed on the analytical results. The data validation was performed to qualify the data if necessary. Laboratory summary reports were used for the validation and not raw data.

PCBs:

The polychlorinated biphenyl (PCB) sample was extracted within the 7 days holding time and analyzed within the 40 day holding time. No qualifications will be applied.

The PCB method blank was below reporting limit for the target analytes. No qualifications will be applied.

No field blank sample was submitted with this sample delivery group.

No matrix spike/matrix spike duplicates for this sample delivery group

The PCB laboratory control sample (LCS)/LCS duplicate met acceptance criteria. No qualifications will be applied.

The PCB field duplicate met acceptance criteria. No qualifications will be applied.

The relative percent difference between the column results for the detected PCBs met the acceptance criteria. No qualifications will be applied.

ARCADIS
Emeryville, CA

Con-Test Analytical Laboratory Job 11F0396

A modified Tier II validation was performed on the analytical results. The data validation was performed to qualify the data if necessary. Laboratory summary reports were used for the validation and not raw data.

PCBs:

The polychlorinated biphenyl (PCB) samples were extracted within the 7 days holding time and analyzed within the 40 day holding time.

PCB surrogates were compliant in all samples. No qualifications will be applied.

The PCB method blanks were below reporting limit for the target analytes. No qualifications will be applied.

No field blank samples were submitted with the sample delivery group.

No PCB matrix spike/matrix spike duplicates were analyzed.

The PCB laboratory control sample (LCS)/LCS duplicate met acceptance criteria. No qualifications will be applied.

No PCB field duplicates were submitted with the sample delivery group.

The relative percent difference between the column results for the detected PCBs met the acceptance criteria. No qualifications will be applied.

Samples were diluted between 5 and 50 times and analyzed with elevated reporting limits due to the relatively high concentration of PCBs present in the samples.

ARCADIS
Emeryville, CA

Con-Test Analytical Laboratory Job 12I0349

A modified Tier II validation was performed on the analytical results. The data validation was performed to qualify the data if necessary. Laboratory summary reports were used for the validation and not raw data.

PCBs:

The polychlorinated biphenyl (PCB) samples were extracted 8 days after sampling and the extraction holding time is 7 days for sample Caulk-Brown-4. It was analyzed within the 40 day holding time. The other samples were extracted and analyzed within specified holding times. The results for sample Caulk-Brown-4 will be qualified as estimated and no other qualifications will be applied.

Lab Id	Sample ID	PCB-1249	Qualified Result	Note
12I0349	Caulk-Brown-4	2.0 mg/kg	2.0J mg/kg	Non-compliant extraction holding time

The PCB method blanks were below reporting limit for the target analytes. No qualifications will be applied.

The field blank sample had below reporting limit values for each analyte. No qualifications will be applied.

The matrix spike/matrix spike duplicates met acceptance criteria. No qualifications will be applied.

The PCB laboratory control sample (LCS)/LCS duplicate met acceptance criteria. No qualifications will be applied.

The PCB field duplicates did not have established acceptance criteria for concrete or caulk. The US EPA soil default of 50% relative percent difference (RPD) was applied. The field duplicates met acceptance criteria. No qualifications will be applied.

Phoenix Environmental Laboratory Job BA 15066

A modified Tier II validation was performed on the analytical results. The data validation was performed to qualify the data if necessary. Laboratory summary reports were used for the validation and not raw data.

PCBs:

The polychlorinated biphenyl (PCB) samples were extracted within the 7 days holding time and analyzed within the 40 day holding time.

PCB surrogates were diluted out with the exception of samples 0325DD-PCB-01 and 0325DD-PCB-03. Surrogate recoveries were compliant in these two samples.

The PCB method blanks were below reporting limit for the target analytes. No qualifications will be applied.

No field blank samples were submitted with the sample delivery group.

No PCB matrix spike/matrix spike duplicates were analyzed.

The PCB laboratory control sample (LCS)/LCS duplicate met acceptance criteria. No qualifications will be applied.

No PCB field duplicates were submitted with the sample delivery group.

The relative percent difference between the column results for the detected PCBs met the acceptance criteria. No qualifications will be applied.

Samples were diluted and analyzed with elevated reporting limits due to the relatively high concentration of PCBs present in the samples with the exception samples 0325DD-PCB-01 and 0325DD-PCB-03.

ARCADIS
Emeryville, CA

Product Data Sheet
Edition 8.1.2011
Sikagard 550W Elastocolor

Construction

Sikagard® 550W Elastocolor

High performance, anti-carbonation, crack-bridging coating

Description	Sikagard 550W Elastocolor is a elastomeric, crack-bridging, anti-carbonation, acrylic protective coating. Sikagard 550W Elastocolor provides protection to reinforced concrete from the ingress of carbon dioxide and other aggressive gasses. It offers high resistance to chlorides and other waterborne salts and excellent UV light resistance. Sikagard 550W Elastocolor will not act as vapor barrier and will enhance the aesthetic appearance of the structure.
Where to Use	Protective, crack-bridging coating for concrete, mortar, stucco, masonry, and exterior finishing systems subject to cracking/dynamic movement. On building and civil engineering structures subject to cracking. As the top coat in complete repair and protection systems.
Advantages	■ Can bridge dynamically moving cracks ■ Excellent carbonation barrier ■ Water vapor permeable ■ Provides resistance to weathering, frost and deicing salts ■ Crack bridging properties maintained at low temperatures ■ Excellent long term UV light resistance ■ Can be applied by brush, roller, or airless spray ■ Good color stability ■ Extremely resistant to dirt pick up and mildew ■ Nontoxic, nonflammable as a system ■ Easily maintained silk finish
Coverage	Theoretical yield per coat: 100 sq. ft./gal/coat. Recommended 'wet' film thickness: 16 mils/coat. Recommended 'dry' film thickness: 8 mils/coat. Normal coating system is two coats at a total dry film thickness of 16 mils. Consumption is dependent on porosity of substrate. In addition, allowance must be made for surface profile, unavoidable variation in applied film thickness, loss and waste. Sikagard Elastic Base Coat can be used as a first coat in a two coat system of Sikagard 550W Elastocolor.
Packaging	5 gallon, re-closable plastic pails.

Typical Data *(Material and curing conditions at 73°F (23°C) and 50% R.H.)*

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life 2 years in original unopened container.

Storage Conditions Store dry at 40°-95°F (4°-35°C) Condition material to 60°-75°F (15°-25° C) before using. Protect from freezing. If frozen discard.

Colors 469 standard colors. Custom color-matching available.

Pot Life Indefinite, provided proper care is taken in protecting the system from moisture, freezing, contamination, or evaporation.

Solids Content	**by weight**	**by volume**
Smooth 550W	62%	55%
Sikagard 552W	20%	17%

Tensile Properties (ASTM D-412 modified)

Tensile Strength	190 psi
Elongation at Break	820% at 73°F (23°C)
Tensile Strength at 0°F (-18°C)	1000 psi
Elongation at Break at 0°F (-18°C)	340%

Waiting Time (between coats) and Curing Rates	**45°F (8°C)**	**68°F (20°C)**	**85°F (30°C)**
Sikagard 552W Primer+Sikagard 550W	24 hours	12 hours	6 hours
Sikagard 550W	12 hours	8 hours	6 hours
Rain resistant (at 75% R.H.)	24 hours	4 hours	2 hours

(Note: Overcoating old coatings will increase the waiting times by 100%)

Water Vapor Diffusion (at 16 mils = 400 microns dry film thickness)

μ - value H_2O (diffusion coefficient) = 2,146
SdH_2O (equivalent air thickness) = 2.6 ft. (0.8 m)

Carbon dioxide diffusion (at 16 mils = 400 microns dry film thickness)

	***After 2,000 hours**
μ - value CO_2 (diffusion coefficient) =	214,000
R (equivalent air thickness) =	299 ft. (91 m)
Sc (Equivalent concrete thickness) =	9 inches (23 cm)

*accelerated weathering

Crack-Bridging (at 16 mils = 400 microns DFT)

Static (at -4°F/-20°C)	30 mils (0.75 mm)
Dynamic>1000 cycles (at -4°F/-20°C)	12 mils (0.3 mm)

Moisture Vapor Permeability (ASTM E-96) 14.5 Perms

Resistance to Wind Driven Rain (TT-C-555B) No passage of water through the coating

Flame Spread and Smoke Development (ASTM E-84-94)
Flame Spread: 5 Smoke Development: 5 Class Rating: A

Weathering (ASTM G-23) 10,000 hours Excellent, no chalking or cracking

Construction

How to Use

Surface preparation	All surfaces to be coated must be dry, clean, sound, and frost free with curing compound residues and any other foreign matter removed. An open textured sandpaper like surface is ideal (CSP-3). Where necessary, surfaces should be prepared mechanically by blast cleaning or high speed pressure waterjetting. Allow adequate time for drying. Bugholes, cracks or irregularities of substrate should be filled and leveled with SikaTop, MonoTop or acrylic surface fillers as appropriate.
Priming	All porous areas or concrete with excessive porosity should be primed using Sikagard 552W Primer or SikaLatex R to allow easy application of Sikagard 550W Elastocolor.
Mixing	Stir all materials to ensure uniformity using a slow speed (400-600 rpm) drill and ½" jiffy style mixing paddle. To minimize color variation when using multiple units, blend two pails of Sikagard 550W Elastocolor. Use one pail and maintain the second pail to repeat this procedure (boxing) for the entire application.
Application	Any areas of glass or other surfaces should be masked. Recommended application temperatures (ambient and substrate) 45° - 95°F (7°-35°C). Sikagard 550W Elastocolor can be applied by brush, roller, or spray over entire area moving in one direction. At lower temperatures and high humidity, waiting time will be prolonged. At higher temperatures, work carefully to maintain a wet edge. As with all coatings job site mock-ups should always be completed to confirm acceptability of workmanship and material. **NOTE:** To achieve a dry film thickness of 16 mils, two coats should be anticipated. For maximum adhesion, (especially on porous substrates) the use of Sikagard 552W is recommended. Sikagard 552W primer can be applied by brush or roller. Brushing provides more even and pore free coats and better penetration.
Limitations	■ Not designed for use as a traffic bearing surface ■ Substrates must be dry prior to application ■ Minimum age of concrete prior to application is 14 days, depending on curing and drying conditions (moisture content must be below 5%) ■ Minimum age of SikaTop or MonoTop prior to application is three days, depending on curing and drying conditions (moisture content must be below 5%) ■ Allow sufficient time for substrate to dry after rain or other inclement conditions ■ Protect from freezing. If frozen, discard ■ Sikagard 550W Elastocolor should not be applied at relative humidity greater than 90%, or if rain is forecast within the specified rain resistance period ■ Maximum crack width 1/32" ■ During application, regular monitoring of the wet film thickness and material consumption is advised to ensure that the correct layer thickness is achieved. When over-coating existing coatings, compatibility and adhesion testing is recommended ■ When over-coating Sikaflex sealants, a prime coat of Sikagard 550W Elastocolor accent base coat may be necessary over the sealant to minimize dirt pick up on cured coating. ■ Do not store Sikagard 550W Elastocolor in direct sunlight for prolonged periods ■ Strong winds can cause shrinkage if material is applied at lower temperatures ■ Ensure that the primer is thoroughly dry before over-coating to prevent formation of bubbles and blisters, particularly in warmer weather ■ Not recommended for roofing
Caution	**IRRITANT**: Contains Zinc Oxide (CAS #1314-13-2). May cause eye/skin/respiratory irritation. May be harmful if swallowed. **Strictly follow all usage, handling and storage instructions.**
Handling and Storage	Avoid direct contact. Wear personal protective equipment (chemical resistant goggles/gloves/clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and launder before reuse.
First Aid	**Eyes:** Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin:** Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation:** Remove to fresh air. **Ingestion:** Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a physician immediately if symptoms persist.**
Clean Up	Use personal protective equipment (chemical resistant gloves/ goggles/clothing). Without direct contact, remove spilled or excess product and placed in suitable sealed container. Dispose of excess product and container in accordance with applicable environmental regulations.

Visit our website at www.sikausa.com **1-800-933-SIKA NATIONWIDE**

Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 800-933-7452
Fax: 201-933-6225

Sika Canada Inc.
601 Delmar Avenue
Pointe Claire
Quebec H9R 4A9
Phone: 514-697-2610
Fax: 514-694-2792

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

Owner Certification

The undersigned property owner is the party conducting the cleanup at the Site. The property owner certifies that all sampling plans, sampling collection procedures, sample preparation procedures, extraction procedures and instrumental/chemical analysis procedures used to assess and/or characterize the polychlorinated biphenyl (PCB) contamination at the cleanup Site, are stored on file and available for United States Environmental Protection Agency (USEPA) inspection, as described below:

Document Storage Location:

Facilities Management Building
Cape Cod Community College
2240 Iyannough Road
West Barnstable, MA 02668-1599

Property Owner & Party Conducting Cleanup

Authorized Signature

John T. Lebica

Name of Authorized Representative

Asst Vice President

Title